TWO COLOR FORMS OF LOBELIA CARDINALIS L.

Harold St. John.

An unusual rose-colored form of *Lobelia cardinalis* L. was recently sent from Jaffrey, New Hampshire, by my friend, Miss E. M. Parker. In the Gray Herbarium is a specimen of the same form from East Jaffrey, collected by E. L. Rand and B. L. Robinson in 1901. This rose-colored form, then, appears repeatedly, if not continuously in Jaffrey. In the first edition of his Manual, Dr. Gray says[1] of *Lobelia cardinalis* L., "rarely varying to rose-color! (Plymouth, *Mr. Gilbert*)," and in the Gray Herbarium is an old sheet of this form, with imperfect data, that is presumably Mr. Gilbert's plant from Plymouth, or specimens raised from seed obtained from Mr. Gilbert. In 1871 this plant was mentioned in the Torrey Bulletin,[2] "flesh colored variety, 1868, *Meriam*." Later, in 1912, Dr. Witmer Stone noted,[3] "Near Green Creek I have found a plant with pale salmon pink flowers." Striking color-forms such as this attract the attention of any observer, so they may well be designated by a name.

Lobelia cardinalis L., f. **rosea** n. f., floribus roseis. Flowers rose-colored. New Hampshire: flowers roseate, mountain stream, East Jaffrey, Aug. 31, 1901, *E. L. Rand & B. L. Robinson*, no. 1,007 (type in Gray Herb.); brookside near East Jaffrey, Aug. 29, 1919, *Miss E. M. Parker*.

Like most colored flowers, *Lobelia cardinalis* L. has an albino form. It is of occasional occurrence, and it has often been mentioned in the botanical journals and in the floras from the time of Muhlenberg[4] who indicates it by "*Corolla*

alb.
cocc. } 5. cardinalis,"

and by Pursh,[5] "I have seen a white variety of it," down to the present time. This should be known as:

[1] Gray, Asa: Man. Bot. N. U. S., ed. 1. 253 (1848).
[2] Bull. Torr. Bot. Club ii. 12 (1871).
[3] Stone, Witmer: Pl. of S. N. J. 715 (1911).
[4] Muhlenberg, Henry: Cat. Pl. Am. Sept. 22 (1813).
[5] Pursh, Frederick: Fl. Am. Sept. ii. 448 (1814).

LOBELIA CARDINALIS L., f. **alba** (A. Eaton), n. comb. *L. cardinalis* L., var. *alba* A. Eaton, Man. Bot. N. Am., ed. 7, 375 (1836). *L. cardinalis* L., β *alba* Wood, Class-Book of Bot. ii. 227 (1845). *L. cardinalis* L., γ *candida* Wood, Am. Botanist and Florist 195 (1870).

GRAY HERBARIUM.

FURTHER NOTES ON PHILOTRIA.

R. W. WOODWARD.

IN a recent issue (RHODORA **21**: 114), the writer reported what appeared to be *Philotria angustifolia* growing in brackish water at Old Lyme, Connecticut. The station was revisited in August, 1919, and both flowers and fruit were examined while fresh, so that they can be described in more detail than was possible from dry specimens. Experience proves these parts of Elodeas to be unsatisfactory in the dry state, even when great care is used in preparing them.

At this station the plant occurs as a narrow fringe at the extreme edge of low water, and cannot well be collected except for a short time at the turn of the tide. Hundreds of staminate flowers were seen floating on the slowly moving water as it began to return. Many of these were surrounded by pollen grains, moving along with them, while others that had not yet discharged their pollen, emitted a copious pollen shower at the slightest jar. In these expanded flowers, the three purplish, or purple-flecked, somewhat ventricose, obovate sepals, which are barely united at base, are so strongly reflexed that they meet beneath and resemble a thin, wide peduncle. The narrower petals are similarly reflexed. Consequently the whorls of nearly sessile anthers are raised in effect above the perianth, and the latter cannot impede the flight of the pollen when it is ejected. Possibly also the reflexed perianth, traveling in the water, steadies the rest of the flower and keeps it upright above the surface and in the best position to scatter its pollen. The anther cells are 0.8–1.1 mm. long and very plump, and the firm pollen grains are noticeably large. As the perianth, if spread out flat, could hardly exceed 3 mm. in breadth, it appears that the anthers are large for the size of the flower, and the amount of pollen correspondingly great. In fact, when floating on the water, the whorls of anthers are the conspicuous part of the flower.